

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Previously Presented) A method of managing a power supply for an electronic device, the power supply having a measuring circuit, a rechargeable battery source and an auxiliary power source, said method comprising the steps of:

measuring one or more parametric data of the rechargeable battery source during operational charging and discharging cycles with the electronic device;

removing the rechargeable battery source from operation of the device;

checking for removal of the rechargeable battery source from operation of the device

testing the measuring circuit for offset error when the rechargeable battery source has been removed, and

resuming said measuring when the rechargeable battery has been replaced to operation of the device.

2. (Previously Presented) The method according to claim 1, wherein said testing further comprises correcting the measuring circuit for the offset error.

3. (Previously Presented) The method according to claim 1, further comprising:
powering the device temporarily using the auxiliary power source during said testing.

4. (Original) The method according to claim 1, wherein said parametric data includes cumulative charge.

5. (Original) The method according to claim 1, wherein said electronic device is an implantable medical device.

6. (Original) The method according to claim 5, wherein the implantable medical device is a prosthetic hearing implant system.

7. (Previously Presented) A power supply for an electronic device, said power supply comprising:

- a rechargeable battery source configured for cyclical charging and discharging by said electronic device;

- a measuring circuit configured to measure one or more parametric data during said charging and discharging;

- an auxiliary power source configured to provide power to said electronic device independently of said battery source;

- an isolation circuit for isolating said rechargeable battery source from said device;

- a testing circuit configured to test said measuring circuit for offset error; and

- a reducer circuit configured to reduce current flow from said rechargeable battery to said device to a minimal value;

wherein said testing circuit is enabled during said isolation of said rechargeable battery from said device.

8. (Previously Presented) The power supply according to claim 7, wherein said testing circuit is further configured to correct any offset error while said rechargeable battery source is isolated from said device.

9. (Previously Presented) The power supply according claim 7, wherein said parametric data includes cumulative charge.

10. (Original) The power supply according to claim 7, wherein said electronic device is an implantable medical device.

11. (Original) The power supply according to claim 10, wherein the implantable medical device is a receiver/stimulator unit of a prosthetic hearing implant system.

12. (Previously Presented) A system for operating a rechargeable battery, said system comprising:

means for maintaining current by delivering a predetermined current to said rechargeable battery until said rechargeable battery is charged to a predetermined maximum voltage;

means for maintaining voltage by delivering decreasing step-function current to said rechargeable battery to maintain the maximum voltage until said delivered current reaches a predetermined minimum current;

means for determining a cyclical current to be delivered to said rechargeable battery by said current maintaining means and said voltage maintaining means during a cycle; and

means for correcting said determining means when the determined current is not being delivered to said rechargeable battery.

13. (Previously Presented) The system according to claim 12, wherein said voltage maintaining means engages after said rechargeable battery to said predetermined maximum voltage

14. (Previously Presented) The system according to claim 12, wherein said determining means comprises means for integrating current delivered to said rechargeable battery.

15. (Original) The system according to claim 12, wherein said predetermined current and said predetermined minimum current are different.

16. (Original) The system according to claim 12, wherein said predetermined voltage and said predetermined maximum voltage are different.

17. (Original) The system according to claim 12, wherein said predetermined current may be dynamically adjusted based on parameters of said rechargeable battery.

18. (Original) The system according to claim 12, wherein said predetermined voltage may be dynamically adjusted based on parameters of said rechargeable battery.

19. (Original) The system according to claim 12, wherein said predetermined minimum current may be dynamically adjusted based on parameters of said rechargeable battery.

20. (Original) The system according to claim 12, wherein said predetermined maximum voltage may be dynamically adjusted based on parameters of said rechargeable battery.

21. (Original) The system according to claim 12, wherein said predetermined maximum voltage is less than 57.6 volts.

22. (Original) The system according to claim 12, wherein said predetermined minimum current is less than 1 ampere.

23. (Original) The system according to claim 12, wherein said rechargeable battery is used for an implantable medical device.

24. (Original) The system according to claim 23, wherein said implantable medical device is a prosthetic hearing implant.

25. (Original) The system according to claim 24, wherein said prosthetic hearing implant is a totally implantable prosthetic hearing implant.

26. (Previously Presented) An apparatus for characterizing a rechargeable battery, said apparatus comprising:

- a current limited source for delivering, during a first charging stage, a current flow to said rechargeable battery, until said rechargeable battery is charged to a predetermined maximum voltage;

- a voltage limited source for maintaining, during a second charging stage, a substantially constant voltage by said rechargeable battery by delivering decreasing step-function current flow to the rechargeable battery until the current flow delivered to said rechargeable battery is below a predetermined minimum current;

- an integrator configured to integrate current flow delivered to said rechargeable battery during the first and second charging stages;

- threshold detector means configured to output a charge counter increment_signal upon detection of a predetermined level of charge output from said integrator; and

- a correlator configured to correlate a total number of unit counts of charge during said first and second calibration stages with said predetermined maximum voltage and said predetermined minimum current.

27. (Previously Presented) The apparatus according to claim 26, wherein said second charging stage commences after completion of said first charging stage.

28. (Previously Presented) A computer readable medium, having a program recorded thereon, where the program is configured to make a computer execute a procedure to operate a rechargeable battery, said procedure comprising the steps of:

characterizing the battery comprising the sub-steps of:

(i) delivering, during a first charging stage, a substantially constant current to said rechargeable battery until said rechargeable battery is charged to a predetermined maximum voltage;

(ii) delivering, during a second charging stage, a decreasing step-function current flow to maintain a substantially constant voltage by said rechargeable battery until a predetermined minimum current is delivered to said rechargeable battery; and

(iii) determining a delivered charge value of current delivered to said rechargeable battery by sub-steps (i) and (ii); and

cyclically charging and discharging of said rechargeable battery according to said determined delivered charge value.

29. (Previously Presented) A battery charger for an electronic device, said battery charger comprising:

a rechargeable battery source configured to cyclically charge and discharge said electronic device;

a measuring circuit configured to measure one or more parametric data during said charging and discharging;

an auxiliary power source configured to power said electronic device when said rechargeable battery source is removed from operation of the device independently of said rechargeable battery source;

a testing circuit configured to test said measuring circuit for offset error while said rechargeable battery is removed from operation of the device; and

a reducer circuit configured to isolate said rechargeable battery from said device by reducing current flow from said rechargeable battery to said device to a minimal value;

wherein said testing circuit is enabled during said isolation of said rechargeable battery from said device.

30. (Previously Presented) The battery charger according to claim 29, wherein said testing circuit is further configured to correct any offset error while said rechargeable battery source is isolated from said device.

31. (Original) The battery charger according to claim 29, wherein said parametric data includes cumulative charge.

32. (Original) The battery charger according to claim 29, wherein said electronic device is an implantable medical device.

33. (Previously Presented) The battery charger according claim 32, wherein the implantable medical device is a receiver/stimulator unit of prosthetic hearing implant system.

34. (Previously Presented) A prosthetic hearing implant system comprising:

a battery charger comprising:

a rechargeable battery source configured to cyclically charge and discharge said battery charger;

a measuring circuit configured to measure one or more parametric data during said charging and discharging;

an auxiliary power source configured to power said battery charger when said rechargeable battery source is removed from operation of the battery charger independently of said rechargeable battery source;

a testing circuit configured to test said measuring circuit for offset error while said rechargeable battery is removed from operation of the battery charger; and

a disconnection circuit configured to isolate current flow from said rechargeable battery to said battery charger;

wherein said testing circuit is enabled during said isolation of said rechargeable battery from said battery charger.

35. (Previously Presented) The prosthetic hearing implant system according to claim 34, wherein said testing circuit is further configured to correct any offset error while said rechargeable battery source is isolated from said device.

36. (Previously Presented) The prosthetic hearing implant system according to claim 34, wherein said one or more parametric data includes cumulative charge.

37. (Previously Presented) The prosthetic hearing implant system according to claim 34, wherein said electronic device is an implantable medical device.

38. (Previously Presented) The prosthetic hearing implant system according to claim 37, wherein the implantable method device is a receiver/stimulator unit of prosthetic hearing implant system.